MOTOR AGE THE AUTOMOBILE AUTHORITY OF AMERICA

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E. P. WELLS
Ruling Spirit of the Steamobile Co., and Secretary of the National Association
of Automobile Manufacturers



EW YORK, Jan. 26.—The committee of the Long Island Automobile club, in chareg of the 100 mile endurance test to be run over Long Island roads late in March is at work on the preparations with enthusiasm boding a notable success for the trial. It has just announced the preliminary rules, along the line of which the final conditions will be established. These rules follow:

 Endurance test to be held late in March.

2.—Open to three classes, steam, gasoline and electricity.

3.—Applications for entrance of other motive powers will be received and given due consideration.

4.—Course to be over macadamized roads on Long Island, including grades, levels, etc.; no retracing; 100 miles within a 12hour limit.

5.—Notices of the forthcoming endurance test to be sent to all village authorities through which the course may be laid, requesting their co-operation.

6.—Speed limit of 8 miles an hour through villages and towns, with a maximum speed limit of 15 miles per hour.

7.—All contestants are to provide their own fuel and water, either bzy pre'iminary arrangement or by transportation.

Owners of electric carriages to arrange for battery relays.

9.—In case of a tie between two vehicles of the same type, the best average time, taking into consideration the amount of fuel consumed, the weight of the carriage and non-stops.

10—Hill climbing contest to take place on the grade between Jamaica and Flushing. At this point there is a grade esimated to 11.—Entrance fee \$10 for each vehicle.

Description of the confined to self-propelled vehicles so constructed as to carry at least two passengers seated side by side. All vehicles have to carry the full complement of passengers.

13.—For entry blanks, information, etc., applications should be made to Mr. Charles W. Spurr, secretary of the club, at the club headquarters, 552 State street, Brooklyn

The committee in charge of this endurance test is made up as follows: L. R. Adams, president of the club and chairman of contests and exhibitions committee; H. B. Fullerton, chairman of good roads committee; H. S. Chapin, chairman of runs and tours committee; F. W. Tousey, R. E. Jarridge and J. E. Savel, members of the contests and exhibitions committee; F. G. Webb, chairman of technical committee; C. W. Spurr, Robert Darling and A. R. Pardington.

NEW PENN CLUB OFFICERS

Philadelphia, Jan. 28.—At the annual meeting of the Pennsylvania Automobile Club, held last Thursday evening, the following were elected to serve as officers for the ensuing year: Dr. F. L. Sweany, president; Julian Haugwitz, first vice-president; Charles S. King, second vice-president; Henry J. Johnson, secretary; W. H. Hinchman ,treasurer; Robert P. McCurdy, captain; J. K. Wharton, first lieutenant; George E. Gossler, second lieutenant; board of directors, Charles L. Klauder, William F. Rudolph, S. R.

Weaver, Maurice Loeb, George E. Gossler.

The annual statistics of the Fairmount Park Commission show that, as compared with last year, there was an increase of 6,693 motor vehicles entrances to the park at the various principal gates.

ROCHESTER BUYS GOOD VEHICLES

There are about twenty-five automobiles in constant use in Rochester, of which three are of the gasoline type, three of the electric and sixteen of the steam wagon variety. The styles most popular in Rochester are the runabouts and stanhopes. Of the number in use at least four are owned by physicians. The demand seems to be for the better class of vehicles at a reasonably high price.

FULLY WORTH THE PRICE

There always were and there always will be people who believe that some article on which they have set their affections should be sold at about one-half the price at which it is sold. They are at present turning their attention to motor vehicles and have been ably answered by a man in the trade at Rochester, N. Y.

"The price will not decline, in my opinion," he says. "When the immense capital required for the manufacture of automobiles is considered and the size of the plants compared with the small output, it will be seen that there is not much opportunity to cut prices. The bicycle is pointed out as a case where price declined, but after all bicycles have only declined from \$135 to \$75, the amount one must pay for the latest and best models of chainless wheel: and where close to \$1,000,000 as required to begin the manufacture of automobiles, \$10,000 will start a bicycle factory capable of turning out a large number of machines.

"As to the cost of maintaining an automobile I would say that the vehicles in use in Rochester did not average \$10 each, for repairs last year and this figure was made by one or two cases of accident where the wagon was badly damaged. The surrounding towns are taking up the automobile and in a few

seasons I think that they will be as common on the streets of the city as to excite no comment when they pass. The automobile has hardly entered into its career of popularity yet."

THE END TO END JOURNEY

When an Englishman wants to accomplish the longest straightaway journey it is possible to make on the tight little island, he goes down to Land's End, in Cornwall, and hies him northward toward John o' Groats. Sometimes the journey is made the other way, though it is considered a somewhat more difficult feat. This journey has just been made on a Locomobile, operated by H. W. Egerton. The time occupied on the trip has not been reported by Mr. Egerton, and it may therefore be assumed that a thorough test of his vehicle was of greater importance to him than speed. At any rate, his experience seems to have been most satisfactory and to have proved to the British public the excellence of American steam vehicles. The only difficulty encountered was in obtaining supplies of gaso ine, or petrol, as the English prefer to ca l it.

Before starting Mr. Egerton prepared a large box of spare part₃ and arranged to have them forwarded from town to town, so that, in case of accident, he might easily make the required repair. No such thing happened, however, and, as a matter of fact, he forgot all about the box, and eventually notified the railway company to send it to London. The total distance covered was 880 miles.

A document has been discovered in the archives of the city of Antwerp, Germany, which is dated 1479 and which says that the city's treasurer is authorized to pay a cash reward to a fellow named Giles de Dom for having presented the city a vehicle which is made to move by mechanical means. And Columbus had not yet discovered America!

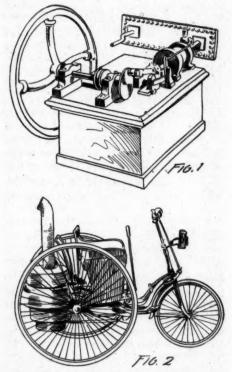
Dealers can visit the Chicago automobile exhibition March 23-30 inexpensively, as reduced round trip railroad fare has been granted for the occasion.

SERPOLLET, THE ENERGETIC PIONEER

VERYBODY, almost, in the automobile industry has heard of Serpollet, the great French inventor and expert who was recently decorated by the French government for

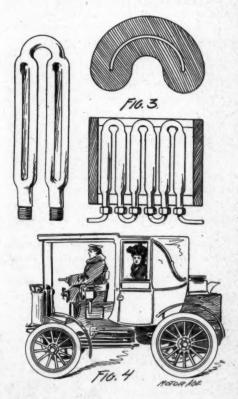
the steam generator it was made entirely of wood and was not of original design. The generator, on the other hand, was Serpollet's own, and in effect it was the same as the fully developed steam generators now known throughout the automobile trade of Europe as the Gardner-Serpollet system.

It consisted of two plates of iron riveted together with a thin intervening space. By placing this double plate in a stove, heating it red hot, and forcing



his valuable work in the development of the motor vehicle. Few, perhaps, know that the success of Serpollet rests upon the principle in steam generation evolved by him in the days of his youth, long before he dreamt of automobiles; that a crude steam engine made by him at seventeen years of age in his father's carpenter shop has been the corner stone of his strenuous life, the master key of his career of persistent labor.

Such is the case, however. In Fig. 1 of the accompanying group of illustrations is shown the crude original engine mentioned. With the exception of



a small amount of water through its cavity, a corresponding amout of super-heated steam was instantaneously produced. By developing this crude affair into a complete boiler or generator, with a special fire box, correct water and steam pipes, and an automatic regulat-

ing pump operated by the engine, Serpollet produced the first commercial pattern of his steam engine, which was publicly exhibited at the Paris exposition of 1889, twelve years after his original experiment.

The further development of the latter system, without change in the principle, has led to the Serpollet steam generator and engine of to-day, which, on account of its small size and high efficiency. coupled with quick generation of steam, silent action and other similar qualities, has made it especially applicable to motor vehicles and like machines. In fact, it was the convenience of the generator that induced Serpollet to utilize it as a vehicle propellor. Hence, had it not possessed these qualities, despite its worth in other directions, the name of its inventor might never have been coupled with the automobile industry.

His first automobile experiment was made in 1888, and resulted in the tricycle shown in Fig. 2 herewith. It is noticeable in this machine that, while crude in the eye of the present, it represents the adoption for vehicles of the advanced bicycle construction of its period. Thus it can be truly said that the influence of the bicycle upon the design of light motor vehicles has not only been felt during the last few years of marvelous progress, but at the very beginning of the present automobile era as well.

Fig. 3 represents a fragmental section of a perfected form of Serpollet steam

generator, and shows one of the recent forms of water tubes used. The double plate, which was early replaced by a flatted tube, is here developed into a flatted tube formed into semi-circumferential shape. Letting the short series of these tubes represent the steam generator, it is easy to perceive the method of rapid production of superheated steam accomplished by them.

The water, which is fed into the series by an automatic regulation previously mentioned, passes in thin volume through the narrow interior of the tubes and issues into the engine feed pipe, superheated steam. It is not necessary to dwell upon the advantages and disadvantages of superheated steam for automobile engine driving. Suffice it that the system has its adherents and its opponents, and that, despite the experience of others, Serpollet has made a success of it, and that by his system are now driven such magnificent steam equipages as the carriage shown in Fig. 4, tram cars, freight trucks, light vehicles, launches, and small railroad trains.

Serpollet's life presents innumerable experiments and achievements of interest. A recital of them would be a book. But, after all, the most salient feature of his notable career is the opening statement that the present success of the machines made by him and his colleagues rests upon the crude iron plates riveted together by him when a boy, and heated in a stove.





FRESH NEWS OF THE INDUSTRY....



T HE MANUFACTURE of Baldwin automobiles will not be discontinued.

On Monday of last week the company made an assignment and later in the week creditors commenced involuntary bankruptcy proceedings and the court appointed two receivers. They are George J. Humbert and Edward W. Boyd. These gentlemen petitioned the court to be allowed to continue the business and were given ninety days in which to proceed with the work. At the end of that time they are to make a report to the court and receive further instructions.

It was the same old story of too much experiment. George J. Humbert, president of the company and now one of the receivers, furnishes the following explanation of the situation:

"The company was formerly the Slay-maker-Barry Co., manufacturer of locks and hardware. S. L. Slaymaker, the head of the concern, met L. F. N. Baldwin and Horatio Frazer, his backer, in Providence, R. I. A deal was consummated whereby Slaymaker retired with the lock end of the business and the plant was transformed into an automobile factory, the name of the corporation being changed to the Baldwin Automobile Mfg. Co.

"Frazer, who bought Slaymaker's interest, was made president, and the company started to make machines last March. The machine brought here by Baldwin seemed to work all right, and we expected to turn them out rapidly as soon as the preliminary preparations were made. It seems, however, that, instead of building the machines on his original model, Baldwin spent months in experi-

menting. We had orders on hand, but they remain unfilled.

"Things went from bad to worse, until, in the latter part of October, the directors interfered. Frazer was requested to resign and I was asked to take his place, which I did at considerable sacrifice to myself.

"We hoped to be able to get a start and pull the concern through. The indebtedness was \$62,000, and \$102,000 had been expended in futile experiments.

"When I took charge Frazer assured me and the directors that the indebtedness of the company covered the materials for about 180 machines. These materials, which were contracted for in July, August and September, now began to come in, and with them the bills, swelling our indebtedness from \$62,000 to \$90,000.

"In the face of these discouraging conditions we secured the services of John A. Bechtel, of Cincinnati, Ohio, and started to build a machine on entirely new lines, discarding all Baldwin's theories and patterns. We had just succeeded even beyond our expectations, completing a machine that we think second to none in the market, when some of our creditors became importunate. Suits were brought, and in justice to all our creditors we were compelled to take the action we did."

The receivers' petition to be permitted to operate the plant sets forth that the authorized capital stock of the company is \$245,000, of which amount \$146,000 has been issued and the balance remains in the treasury of the company. A schedule of the company's assets is given, including the plant and other property, to-

gether with tools and machinery valued at \$47,000, and stock and materials on hand amounting to \$40,000. The total indebtedness is placed at \$90,500, of which \$6,500 is a mortgage on eight brick houses of the company. Concerning the wisdom of operating the plant, the petition says:

"The machinery and tools in the plant are especially adapted to the manufacture of automobiles, and cannot be profitably used in any other business, and could not be sold to any advantage separate from the plant. The employes are skilled workmen, expert in the production of the vehicles, and unless the plant is immediately permitted to resume the workmen will depart to places unknown.

"The demand for automobiles is great and constantly increasing and there is every prospect of a ready sale for all the automobiles we could complete out of the materials on hand within a reasonably short time. Your petitioners believe that the profits of said business would be sufficient in due time to pay off the entire indebtedness of the company.

"The materials and stock on hand have cost about \$40,000. Being exclusively adapted to the construction and manufacture of automobiles, they are practically of no value for any other purpose, and could be sold on the market for but a small fraction of their value. A large proportion of said materials are completed and ready to be assembled into finished vehicles."

"I believe," said Mr. Humbert, "we will be able to get right along now and within a reasonable time be entirely free from debt. We expect to pay our men as usual on Saturday and to start our works up on Monday."

FLINT MAKES ANOTHER BIG DEAL

New York, Jan. 26.—The fine hand of Charles R. Flint, his indisputable power in the American Bicycle Co. and his prospective prominence in the motor vehicle industry, are shown in a new deal whereby his Automobile Patents Exploitation Co. has been transferred to the A. B. C. and two of his trusted lieuten-

ants have been given positions of prominence in that company.

This deal will probably prove much more far reaching than the mere statement of the transaction would indicate to those who have not followed closely the still hunt of the Exploitation company and Mr. Flint's tentative steps in the motor vehicle industry.

F. B. Hyde, the secretary of the Exploitation company, has become President Coleman's private secretary, and Ralph L. Morgan, the patent concern's mechanical expert, has been made chief mechanical engineer of the A. B. C. automobile department, with present head-quarters at the Lozier factory at Toledo.

In its account of the formation of the Automobile Patents Exploitation Co. in one of its issues of last May, the Motor Age set forth Mr. Flint's connection with the company and made the bold guess that the new company was a mere pretense to get full information of everything doing in automobile manufacture, with a view to purchasing all valuable patents or at any rate becoming well acquainted with the newest and best in the art. The outcome has proved the guess to have been a good one. Moreover, the field of investigation was even much broader; for all possible information inside and outside as regards all possible competing companies was collected. All this information was transferred to the American Bicycle Co. by the deal just closed and the archives of the Exploitation company now rest on the A. B. C. shelves.

It would seem probable that this information has been put to practical as well as theoretical use; for the Exploitation company had a drafting department, indicating that the construction of machinery and various parts of a motor vehicle was in contemplation or that application for patents was probably intended. Development of valuable patents was doubtless in Mr. Flint's mina as a practical outcome of the investigations of the Exploitation company. It is probable also that Mr. Flint has quietly purchased patents of prospective value and that he has had something more than a lot of reports and compilations of information to turn over to the American Bicycle Co. as the tangible and practical assets of the Automobile Patents Exploitation Co.

It has been known for some weeks to a few that Mr. Morgan has invented and completed the construction at a Worcester factory of a steam wagon. Your correspondent has seen a photograph of it and Mr. Morgan has held forth to the writer on its original and radical lines of construction. Mr. Morgan, about a month ago, made a successful trial trip in it from Worcester to New York.

Mr. Flint is somewhat of an enthusiast on steam as an automobile motive power, and almost any afternoon can be seen driving his steam carriage from his office uptown. Mr. Flint was greatly pleased with Mr. Morgan's carriage and at once offered backing. It was at first intended to put out only a few vehicles for trial; but a story soon followed that Mr. Flint wanted to go further and make the plunge with the Morgan steam vehicle on a more extensive scale. Now comes the transfer of the Exploitation company to the A. B. C. and Mr. Morgan's installation as chief of the automobile department.

It is good guessing that Mr. Morgan has not consented to abandon his steam vehicle, of whose prospects he is so enthusiastic, and that the Morgan steam wagon is included in what is evidently a most comprehensive deal. The fact that Mr. Morgan has taken up his headquarters at the Lozier factory adds to the probability of this fact and that the Morgan wagon will be built in that plant. This factory has been particularly interested in steam vehicles; for it is here that the experimental work with the Billings & Spencer steam vehicle has been carried on.

The A. B. C. officials seen by the Motor Age man were reticent as to the deal; but none of them vouchsafed a denial of the suggestions that naturally arose from the transfer of the patent company and the addition of Messrs, Morgan and Hyde to the A. B. C. forces.

THE PRESS AND THE SHOW

The power of the press, judiciously applied, is the greatest factor it is possible

to invoke in the development of an industry, a sport or any other project. Fortunately the press is not easily swayed. It does not permit itself to be carried away by every new thing and when it shows, by its attention to any particular subject, that it has become more than usually interested, it may be taken for granted that it has felt the public pulse and is catering to the desire of the people in the supply of information.

Just now the daily press is devoting a great deal of attention to automobiles. It feels, after due investigation, that the motor vehicle is destined to play an important part in the world's history and that its development and final adoption by all classes will prove one of the great boons of the twentieth century.

The endorsement of the press is not easy to obtain. Before it is given the papers must be thoroughly satisfied of the importance of the event or undertaking and of the character of the men or institutions behind it.

The promoters of the coming show in Chicago therefore feel that, in securing the endorsement of practically all of the Chicago papers in their fight for recognition by the manufacturers' association they proved beyond question the friendly attitude of the press toward automobilism and one of the best endorsements it would have been possible to obtain of the methods taken to popularize the sport and prove the commercial value of automobiles in Chicago.

That the press of Chicago is in sympathy with and will lend all possible assistance to the coming exhibition has been proven beyond doubt, not only by the action referred to, but by personal assurances given since that time.

As an automobile center Chicago is far behind some of the eastern cities. Its club, organized only a few months ago, has not yet devoted the same amount of energy to the propagation of knowledge of the subject as has the Automobile Club of America. Chicago and the west, therefore, needs something to stimulate public interest and educate people in the peculiarities of the new vehicles. This the coming show will accomplish to the advantage of all parties concerned. It is to be held at a time of

year when the public will be preparing to buy and still not too late to interest dealers in Chicago and other cities who desire to take part in the industry.

The coming show will doubtless have a beneficial effect on the membership of the manufacturers' association. There is always danger of an association of this kind becoming a local rather than a national one unless the members are given an opportunity to meet in different parts of the country. The management of the show will offer all possible inducements to the trade to take advantage of the opportunity here presented.

During the past week the promoters have received a number of congratulatory letters as a result of the success of their efforts to procure the approval of the association. It was one of those affairs in which a clean record counts heavily. The members of the executive committee of the association indicated clearly, from the start of the meeting, their desire to do justice to Chicago, and their utterances showed that they had but a faint conception of the magnitude of the undertaking.

Since Friday, of last week, applications have been received for over 7,000 feet of space. The allotments have not yet been made and will be announced only after the contracts have been signed. The entire center of the building has been filled.

DEDION COMES TO CHICAGO

The De Dion-Bouton Motorette Co. has found it necessary, herecofore, to devote all its energies to the cultivation of business in eastern territory and to the completion of its manufacturing facilities at the Brooklyn factory. The new season, however, will bring about a change, for, now that matters are in full swing in the east, the western field is to be cultivated and to that end, a branch is to be opened in Chicago.

Premises have been secured at 147 Michigan avenue, a block south of the athletic club. There will be a show-room on the main floor and the upper part of the building will be devoted to the storage of vehicles.

A repair department will be a feature of the establishment.

The gentleman who will be responsible

for this branch of the business is L. M. Grant, of the American Steel & Wire Co. Mr. Grant shows, by his intimate knowledge of the vehicles now on the market, that he has made an exhaustive examination of most of them. He went to Paris on an investigating trip, spent considerable time among the members of the French automobile club and came home thoroughly convinced of the superiority of De Dion motors.

The arrangements for the opening of the Chicago house were completed three weeks ago. About March 1 the company will be ready for business.

ACTIVITY IN CLEVELAND

Cleveland, Jan. 28.-In connection with the recent alleged failure of the Baldwin company, there has been considerable discussion as to the future of Frank Lamkin who has been in charge of the Mobile store in this city. It has been understood that at the first of the year Lamkin became sales manager of the Baldwin company. He has been out of the city for several weeks and his assistant states that they are to have the agency for the Baldwin as well as the Mobile. On the other hand Mr. Houk of the Mobile company has been in the city during the past week, ostensibly seeking a new manager for the Mobile store which would indicate that the establishment is a branch of the Tarrytown concern and not an agency.

It is reported that a new concern, Adams & Bell, will shortly open a store here, handling the line of electric and gasoline vehicles built by the Olds Motor Co., of Detroit.

Louis Bill, the old-time Lozier representative, and who recently became associated with the E. R. Thomas Motor Co., has resigned and passed through this city today on his way to California, where he will locate on account of his health. He will spend a few days in Chicago where he expects to arrange to handle several lines of bicycle and automobile goods. He expects to do a jobbing business in sundries and material. Mr. Bill is interested in the manufacture of the Duck roller brake which is coming into demand for use on motor cycles and automobiles.

Don. Robinson, a former Clevelander,

and at present at the head of the Cleveland agency in Buffalo, was here this week. He has been covering New York state with Cleveland bicycles and motor tricycles.

The Ohio Automobile Co., of Warren, is putting in a wood-working and finishing department which will enable it to produce complete vehicles in its own factory.

Walter Githens, assistant to the manager of the A. B. C. automobile department, has been in Cleveland during the past two weeks, familiarizing himself with the details of Sperry batteries. Mr. Githens is a brother of Herbert Githens, the old-time racing man, who is manager of the Cleveland Rambler store.

The officials of the Shelby Steel Tube Co., deny the report that the business offices of the concern are to be removed to Chicago. The report undoubtedly originated from the fact that a number of the employes of the mechanical department have been removed to the mill at Shelby, O.

BANKER'S NEW BUILDING

Few men have had as excellent opportunities as George Banker to inspect the club houses and other establishments devoted to the sale of automobiles and cycles and the comfort of men who use them. The greater part of the last five years has been spent in Europe, during which time he has repeatedly visited all the principal cities, and, having a wonderfully extensive acquaintance, he has had almost unexampled opportunities to learn all there is to learn about the requirements of the business in which he is now engaged. He practically grew up with the automobile industry in France.

The information thus gained will now be put to practical use. Banker is one of the owners of the Banker Bros. Cycle Co., of Pittsburg, which has decided to erect a two-story establishment to be devoted to the cycle and automobile business. He is not one of the men who profess to know all about it, despite his experience, and therefore invites suggestions as to ways and means of making the establishment thoroughly complete

has therefore accured a lot with a frontage of 20 feet and a depth of 115, with
an entrance on an asphalt street at each
end. It will contain such features as
a waiting room and other conveniences
for the comfort of patrons and as many
others as will enable the company to
transact business to the satisfaction of
all who are interested in the vehicles it
handles.

WOODS COMPANY'S PLANS

Rumor has been taking liberties with the Woods Motor Vehicle Co. during the last few days. According to the reports the company had decided to remove its factory to New Haven and install the whole manufacturing plant in that city.

J. Wesley Allison, president of the company, returned from New York at the end of last week and when seen by a Motor Age man readily furnished the facts. During his eastern trip Mr. Allison spent some time at New Haven and it is not improbable that it will be decided to operate a factory there though nothing has yet been settled. That the company will establish an eastern factory however, has been fully decided.

When the present plans have fully matured Mr. Allison will remove to New York where he has other important interests to attend to. The Chicago factory will continue in operation as heretofore and the entire management of the western business will fall upon Mr. Atkins, the treasurer of the company.

JEFFERY VEHICLES IN SPRINGTIME

T. B. Jeffery, formerly of the Gormully & Jeffery Mfg. Co., who recently purchased the factory at which Sterling bicycles were formerly made, announces that nothing but automobiles will be made there, and that only one style will be produced, a gasoline- propelled stanhope. He denies the story that sewing machines will be made at the same plant. The machine to be manufactured

is the production of Mr. Jeffery and his son, who until recently was secretary of the Chicago club and who was largely responsible for the gasoline vehicle now made by the American Bicycle Co. A number of men are now employed at the factory, though principally in preparing the plant for the work ahead of it. It is expected that vehicles will be ready for spring delivery.

NEW BRAND OF BOILER SHELLS

New York, Jan. 26.-The United States Projectile Co., of Brooklyn, which, until it sold out its tube business two years ago to the Shelby Tube Co., was an important factor in the bicycle business, is contemplating manufacturing shells for steel boilers for automobiles. The company's factory is one of the best equipped in the country for this purpose. During the war with Spain the company produced a majority of the shells subsequently presented to Admiral Cervera and his fleet. The boiler shells, while intended for a more peaceful purpose, will be manufactured with the same care that characterizes all this company's products.

EASY EDUCATIONAL COURSE

The Mechanics' Institute, of Rochester, N. Y., has started a course in engineering for the benefit of prospective owners and drivers of vehicles. The officers of the institution are convinced that the motor vehicle is destined to come into general use and that facilities should be provided for the education of the people. The class meets every Tuesday evening. One of the exercises will include a description of the following ap-

paratus: A standard make of steam carriage, where the boiler is used to generate steam for the steam engine; a standard make of gasoline carriage where no boiler is used, the gasoline being vaporized, mixed with air, and exploded in the cylinder, forming what is known as the gas engine; a standard electric carriage, in which the electric motor and storage batteries are used.

The Locomobile company has just made a plucky move in its determination to open a branch house in Kansas City. People who know anything about the hills in the Missouri town will realize that a company which has faith in the ability of its vehicles to overcome them under all conditions has something quite out of the common in the form of a vehicle. The branch is to be managed by T. W. Day who found, to his surprise, on his arrival, that he was the first man to apply for a license to operate a vehicle in the city.

The National Association of Automobile Manufacturers' has published its constitution and by-laws in booklet form. Firms which are not as yet members of the association but which contemplate joining can, by writing to S. M. Butler, assistant secretary, 95 Liberty street, New York city, secure copies of this booklet.

The Remington Automobile Co. is in correspondence with Charles F. Veeder, president of the board of trade at Schenectady, N. Y., with a view to locating its plant in that city. The board is asked to solicit subscriptions to the capital stock of the company, the amount to be guaranteed to be not less than \$30,000.



FASHION VISITS THE PARIS SHOW

ARIS, Jan. 28.—(Special Cable.)—
The automobile exhibition in the Grand Palais des Beaux Arts is receiving the most gratifying patronage of all classes of people. The comprehensive range of the exhibits attracts visitors of style, as well as tradesmen

and those popularly interested in the automobile.

One notable feature of the show is the display of costumes and equipment. This is extremely elaborate and attracts unending attention from those who are, or aim to be, up-to - date chauffeurs in the matter of dress as well as machines and knowledge. Automobile costumes for both men and women are shown, and these range from expensive fur garments in the extreme of fashion down to leather and rubber coats for the hired driver or machinist. En-

tire fur suits for ladies demonstrate the influence which the automobile has exerted upon the style-makers of Paris and the world.

Returning to the more sober side of the exhibit—the displays of machines and accessories—the exhibition is classed into departments as follows: Automobiles and motocycles; bicycles; materials, tools and machines for building; tires; accessories and sundries; motors and storage batteries and coachmakers' portions of automobiles. In addition to these there are departments devoted to

ballooning and various sports, inventions and new appliances, library, photography and publications.

These exhibits are placed about the building with much discrimination. Placing the principal manufacturers' exhibits right in the center of ev-

erything was certainly the only thing to do, as the extent of their exhibits and the quantity of large automobiles could be seen and almost in spected from any part of the large hall.

Everything on view is thoroughly practical in working, as the models of all the big carriages had gone through a road test, having had to make the trip to Versailles and back and be examined to obtain the official certificate of efficiency.

The exhibitors number 556, large and small.

A cursory glance down the main exhibit shows more novelties and much more grace of form than did last year's show. Among others was an excellent town carriage, which should be called a landauctte—that is, a coupe with a landau covering. The wagonettes, tilburies, and post-chaise models, with large rumbles for servants, are well-marked types.

Boston is threatened with a second show. The Park Square Garden management is said to be preparing a prospectus.

...



One Cos'ume Seen at the Parls Show

QUAKER SHOW NUMBER ONE

HILADELPHIA, Jan. 26.—The automobile show, under the direction of the Philadelphia Cycle Board of Trade, opened in the Third Regiment Armory to-night, and a large attendance of trade and society people rewarded the efforts of the exhibitors and promoters. If the crowd present opening night may be used as a criterion, the show during the whole week should be a satisfactory affair from a standpoint of public patronage.

On the other hand, it can hardly be said that the list of exhibitors is as representative as the board of trade hoped to make it during the early days of preparation for the show. While many large makers of vehicles are represented, the exhibits of automobiles are in most cases those of local branches or agencies handling the vehicles in Philadelphia. The show is thus substantially a local one, made up of displays by local houses, supplemented by the exhibits of several parts and material manufacturers and several motor cycles.

The large drill floor of the armory looks well filled, for, though it would accommodate more exhibitors than are present, the roomy aisles and tasteful palm and other decorative features, rob the big room of the bare look it might otherwise possess. Bunting decorations on the walls also tend to enliven the spectacular effect of the show and give it the color and animation which charms the visitor.

The opening night crowds were cheerful and curious, and, despite the fact that most of those present had had previous frequent opportunities to study the various styles of autos in the local salesrooms, the exhibitors were under an incessant fire of questions for about three hours.

The ten-lap track surrounding the exhibition floor proved, as at all previous automobile shows, to be the star feature of the exhibit, and the crowd

wearied of watching the cirnever succession cling of automobiles. motor bicycles and motor trievcles that gave it life during the evening. The free ride item helped the matter along, of course, and demonstrated that there are still lots of people of all classes who have yet to experience their first ride in a motor vehicle.

The managers have provided liberally for the convenience of the visitors to the show, for rooms adjoining the main floor are neatly fitted up as ladies' reception, men's smoking, telegraph and telephone apartments and restaurant.

The exhibition is under the direct supervision of Secretary Emerson of the Cycle Board of Trade. Just what trade results will develop from the holding of the show cannot be determined until later in the week, but the board of trade optimistically expects that exhibitors will have no cause for regretting the event and several members express the opinion that the show will be a success all around and that financially the board of trade will be rewarded for its work.

The display of the Wood's Motor Vehicle Co., of Chicago, is by far the largest, eight handsome vehicles designed for various purposes being shown.

Novelties are apparently as scarce as the proverbial molars of the female domestic fowl, the only exhibits out of the ordinary being the new Loomis steam automobile engine and the Twentieth Century detachable bicycle, both of which were surrounded by crowds during the evening.

There were no track contests of any kind on the opening night. Monday evening there is a floral parade with prizes for the most artistically decorated vehicles. Each afternoon and evening there will be obstacle, brake, and starting contests for the various types of vehicles and for automobile owners generally as well as exhibitors. Broad street, outside the Armory building was given up to im-

promptu exhibitions of motor bicycles, tricycles and automobiles, and crowds of spectators watched the display with interest.

One interesting exhibit which is not yet ready is that shown at the Paris Exposition and showing the evolution of the bicycle from the hobby-horse era up to the present day. This exhibit was unloaded a few days ago, and was lost somewhere between New York and this city. After a frantic session of "hot wires" it was located in a box-car on a side-track near Newark and forwarded here at once. It will be ready for the inspection of visitors during the remainder of the week.

Colonel Pope was to have been on hand at 8 o'clock to open the show but shortly before that hour a telegram was received from him stating that he was unable to stand sponsor for the exhibition, and it was allowed to open itself. There were no ceremonies of any kind, and even if there were the throngs of people pouring into the building at that hour would have been none the wiser.

Following is a resume of the automobile exhibits.

Automobiles and Motocycles

Eight handsome electric vehicles made up the exhibit of the Woods Motor Vehicle Co., of Chicago, including a brougham cab, station wagon, brake, victoria, stanhope, phaeton, wagon and bus. Such a comprehensive display of automobiles by a single firm was something entirely new to Philadelphians, and the attendants were kept busy answering questions and demonstrating various points about the vehicles throughout the evening. The exhibit occupies the most prominent position in the entire show, immediately at the foot of the bridge, between the entrance and the main exhibition floor, and being the first thing to strike the eye of the visitor naturally attracts considerable attention.

The Standard Motor Vehicle Co., of Camden, N. J., shows four vehicles—three gasolines and an electric (two runabouts, a victoria and a brake). The upholstering of these vehicles combined with their ease of operation were very favorably commented upon. Messrs. Cole, Kull and Egan were in attendance.

The Searchmont Motor Co., of this city, had several of its wagonettes on exhibition. They are remarkably handsome and compact vehicles, and the announcement is made that by February 15 twenty-four of the vehicles will be finished and placed in the hands of their agents, and before May 1, one hundred additional wagons will have been turned out.

R. D. Garden has a large combination exhibit of automobiles and bicycles, including the Toledo Steam carriage and the Trimoto Gasoline vehicle of A. B. C. manufacture.

At the booth of George W. Robb & Co., (Oxford Manufacturing Co.), is another combination exhibit, including the Parkin motors, motor bicycles and auto carriages, besides the carburetors, mufflers and motor parts for which the concern is famous.

The exhibit of W. E. Roach, includes the Waverly electric road wagon brake and combination delivery besides the Knox gasoline vehicle and the Thomas motor bicycle with a demonstration of separate motors and fittings. This display is one of the most varied in the show including as it does full lines of Stearns, Pierce, Regal and Clover bicycles. A half-dozen attendants are necessary to keep the public "next" on the various details of construction of the automobiles and their parts.

The New Home Steam Carriage, the Thomas Auto-bi and Auto-tri form a portion of the exhibit of the veteran Philadelphia dealer, H. B. Hart. The dirigibility of the Auto-bi as compared with some others of the motor bicycles on exhibition is favorably commented upon by the crowds who flock to this booth. Exhibitions of the Auto-bi on the track and outside on Broad street demonstrated effectually the fallacy of the claim that motor-driven bicycles can never be popularized owing to the impossibility of getting tyros to mount them. Several novices, after a little instruction, sped around the track with the sang-froid of old motorists.

The Cleveland motor tricycle comes in

for a large share of the attention bestowed on the exhibit of the A. B. C. Hourly exhibitions were given on the track, and before the show was scarcely an hour old an order for one of the threewheelers had been booked. C. C. Hildebrand, local manager of the Cleveland Sales Department, is in charge of this exhibit.

The Loomis steam engine for automobiles, designed by W. J. Loomis, manager of the local Rambler Sales Department, of the American Bicycle Co., is noticed elsewhere.



The removal of the headquarters of the Electric Vehicle Co. from New York to Hartford will unquestionably prove a blessing to its president, George H. Day. That gentleman has geen a life-long resident of Hartford and may be regarded as the leader among business men of that city. He was for many years at the head of the Weed Sewing Machine Co., whose factory was, later on, purchased by the Pope Mfg. Co. Of the latter concern he was vice-president, general manager, and a great many other things not covered by those titles.

When the development of the automobile industry commenced Mr. Day was one of the first men in the country to recognize its importance. He became manager of the Columbia works, and when they were sold to the present company, Mr. Day was selected by the capitalists who own it to take the entire management of the business.

Few even of those who have followed the developments of the last few months can appreciate the responsibility this position entails. For months Mr. Day has spent two days each week at the factory and has divided the remainder of his time between New York, Philadelphia and Chicago. A long illness just at the time when his responsibilites were greatest added to the difficulties under which he labored. No person other than a commercial giant could have successfully carried out the work he has ac-

complished during the last twelve months.

But despite all this Mr. Day is to his friends, great and small, the same man, to all intents and purposes, that he was twenty years ago—an energetic business man, but never too busy to spend a few moments with those he has known during his earlier career. He is already one of the very big men in the automobile industry. He will be greater still as the industry rolls onward.

PROMINENT AMONG MAKERS

The gentleman whose photograph appears as this week's frontispiece is E. P. Wells, secretary of the National Association of Automobile Manufacturers. Mr. Wells was the organizer of and is the prime mover in the Steamobile company, whose factory is at Keene, N. H., though Mr. Wells has offices at 73 Fifth avenue, New York. He is a forceful man whose opinions command respect among the members of the association and to him the Motor Age, as the promoter, and the western trade as sharers in the success of the coming Chicago show, are indebted in no small measure for the favorable action recently taken by the executive committee,

BRIEF NOTES OF THE INDUSTRY

Despite the recent action of the executive committee of the National Association of Automobile Manufacturers' the promoters of the show to be held at Boston early in March are going ahead with their plans just as if nothing had happened. They make the claim, through the press, that "nearly all the manufacturers who have applied for space are members of the manufacturers' association."

Oshkosh, Wis., has the fever in virulent form. Among the prospective purchasers there are E. P. Sawyer, president of the gas company, Phil H. Sawyer, H. C. Doman, C. W. Radford, Harry Wall and F. H. Warner. The latter has secured the agency for the Milwaukee Automobile Co.'s goods.

Preliminary steps have been taken to organize a company to be known as the Steering Gear Automobile Co., at Sandy Hill, N. Y. The following officers have been elected: President, Joseph Barsaloux; vice-president, Richard Pender; secretary, Roswell Hall; treasurer, William A. Walker. The company will make an automobile patented by its president.

The Locomobile Co. of Great Britain has been organized to manufacture and deal in vehicles, motors, tires and other articles. Another late incorporation is the Riker Motor Vehicle Co., Limited, for similar purposes. The capital in each case is nominal,

Palmer Bros., of Mianus, Conn., who have commenced active operations in the manufacture of motors for vehicles, have had long and extensive experience in all shapes and sizes of engines. They carry on the manufacture of marine engines on a large scale.

The American Roller Bearing Co. has been incorporated in England with a capital of £15,000. Its object is to acquire from the parent company the right to operate certain patents and to carry on an engineering business.

Orders for Victor steam carriages have assumed proportions which have made necessary the putting on of a night force of men at the Chicopee Falls, Mass., factory of the Overman Automobile Co.

The Gould Storage Battery Co., New York, reported to a Motor Age man last week that it is unable to fill the orders fast enough.

Mr. Snyder, of the Buffalo Gasoline Motor Co., has been on a visit to Europe and is expected home within a few days.

H. E. Frederickson, of Omaha, has secured the state agency for the Locomobile and is advertising for sub-agents.

The Overman Automobile Co. has thirty wagons in course of construction and all of them have been sold.

The Messinger Motor Mfg. Co. has just started manufacturing motors at New Canaan, Conn.

The Eastman Automobile Co. has moved its offices over to the factory, lo-

cated at 58 and 60 High street. The business having assumed about three times the importance it possessed a few months ago, it was necessary for the whole force to be concentrated. The company held its annual meeting a few days ago.

Denver has an ordinance which prohibits the driving of automories in the city at a speed greater than six miles an hour and a mounted policeman to enforce it. That gentleman has been busy lately, but at last reports had gone no further than to make sundry threats to run the machines of transgressors into the city pound.

The Milwaukee Automobile Company announces that it is bringing out a new set of steam engines for launches from 18 to 22 feet long. These engines are similar to the ones which have been so successfully used in the company's steam carriages and great things are expected of them in both a mechanical and a commercial way.

Walter C. Bryant, of Brockton, Mass., is the father of a plan to run an automobile stage line in that aristocratic community. He declares that the only thing which prevents the immediate formation of a company is the absence of a suitable vehicle.

The Aultman Co., of Canton, Ohio, has constructed two steam vehicles and is now testing them. When the makers are thoroughly convinced that they have a practical vehicle they will commence to make them for the market.

J. H. Stringer, Dr. H. Chisholm and others have organized the Stringer Automobile Co. and have purchased a building and taken option on ground adjoining it for a factory at Marion, Ohio.

Schuyler Zendt, of Marion, O., who has already built and tried one vehicle, is now at work on a second, embodying such improvements as his experience indicates to be desirable.

A Mr. Nash has lately completed the manufacture of a steam carriage at the Advance shops, Battle Creek, Mich. He is now using it in that city.

ELECTRIC CAB SERVICE IN PARIS

Le Chauffeur, of Paris, the chief "knocker" of the electric vehicle in Europe, prints in its issue of January 11 an article which is extremely detrimental to the industry if allowed to pass uncriticized. With characteristic freedom from consistency it first declares that it is all over with the electric livery service in Paris because a certain company has abandoned its system; next it shows that the unwise policy of the vehicle company in certain lines was to blame for the trouble leading to abandonment of the project!

The electric vehicle is not dead in Paris. Its era there is just dawning. The mistake of managers should not be laid at the door of the vehicles. Paris can doubtless learn a few things from America in the matter of conducting automobile liveries. Le Chauffeur can learn a few things about wisdom by keeping quiet until it has discovered that there are several systems of electric propulsion which are far more economical for city service, either livery or private, than are horses. The Parisian paper's effusion is as follows:

It is all over; the electric cabs of the Light Vehicle Co. of Paris have lived. It is a failure which some are trying to excuse on the grounds that the vehicles will be put into service again when accumulators of greater capacity are made.

In reality the experiments have been disastrous and will have upon the automobile in general and the electromobile in particular an injurious effect, which is somewhat justifiable.

A short time before the opening of the Paris exposition, the Light Vehicle Co., wanting to provide its service with the best conditions, resolved to adopt mechanical traction and decided that the following system would be required:

Source of power, electric with accumulators which could be easily handled; vehicles with four seats and which could be used in winter as well as in summer; as econonomical operation as possible.

The matter of accumulators is the most important feature of the above outline, as they are expensive, sensible to shocks, of limited power capacity, delicate and, in one word, not suitable to a public service which is but slightly remunerative, where the first requirement is economy and where the conduct of the business must be left without supervision into the hands of unexperienced and independent parties.

At the time this was occurring there existed in France at least one type of electromobile which had begun to have a reputation, and others were just appearing in France and foreign countries. The company's choice fell upon an English model, heavy and clumsy. Its especial advantage was hung by chains under the vehicle and were thus easily removable. From all other points of view these vehicles were atrocious.

Once the choice made, the order for construction was given to a factory whose speciality such construction certainly was not, and to charge the accumulators in the most economical manner, a plant of the latest kind was built outside of Paris, in Aubervilliers, whih is five kilometers from the customary central station of the company's vehicles.

Thus in order to obtain economical charging it built a charging plant out in a suburb and necessitated a daily travel of 10 kilometers—5 in the morning and 5 in the evening—which wasted absolutely a considerable portnon of the stated capacity of the accumulators.

Another mistake of the company was to replace the pneumatic tires usually used on electrics, to reduce the jar transmitted to the accumulators, with solid tires.

Well, briefly, a heavy vehicle of mediocre construction, with badly made accumulators, reduced capacity owing to the waste travel, high expenses of a first-class charging plant; nothing more was needed to insure the failure of an experiment already questionable in itself.

But one should not judge the entire situation without considering the extenuating circumstances.

What in reality has Le Chauffeur tried to say?

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A gasoline motor factory at Dentz, Germany, has published its annual report for 1900 showing a net profit of \$397,215, which is \$32,580 more than the previous year. The production of motors for automobiles is responsible for this increase of profits.

A LITTLE ABOUT EVERYTHING

It is ever one of the most gratifying foundation stones of the automobile industry that the modern motor vehicle reduces transportation expenses from the standard set by horse drawing. The fact has been again brought out relative to military operations by one, Captain Latka, a member of the Austrian general staff, in a lecture before the Military Club of Vienna, Austria, last Saturday. The cable report of the lecture credits Captain Latka with the belief that motor wagons are the most suited to the exigencies of a military campaign. He asserted that the value of the automobile in time of war consisted in the fact that it enabled the army to dispense with the greater part of the vast number of horses needed in the transport service and the consequent saving of expense and trou-

It is estimated that an army consisting of four army corps and two divisions requires for a seven-day march 13,000 wagons, 26,000 horses and 14,000 men for commissariat and transport purposes. Automobiles would enable 6,000 men to perform the same work without horses.

The British army in South Africa, Captain Latka informed his audience, found automobiles invaluable, which was all the more remarkable on account of the almost entire absence of roads in the territory in which its operations were conducted.

THE AUTOMOBILE THE PARENT

It is at present an interesting pastime to hunt among old things in old places for old records of old automobiles. Wagons which propelled themselves have been located back in the fourteenth and fifteenth centuries. Any number of early specimens are on record since the birth of the steam engine.

Between the time of the first hints of steam road wagons and the practical beginning of the automobile industry in recent years, there exists a scarcity of material concerning such vehicles. Why? Because the evolution of the railway train interposed and attracted attention.

The automobile in crude experiment came before the railway train. Practically developed, it not only follows the train but the bicycle as well. Yet there is one truth in connection with this mixed-up state of inventive affairs which is seldom, if ever, considered—the railway train is a development of the original automobiles and the modern automobile is simply a development of itself; a sort of reincarnation after many years of inattention.

The first railway trains were mail coaches driven by seat. They were later put onto rails and proceeded forthwith to blossom out as a brand new kind of transporter of folks and goods. Now, at the beginning of the twentieth century with railroads galore and 100-mile-anhour trains hurrying all over the world, we return to the original idea and start to make self-propelled stage coaches.

For the long deferred progress of the self-propelled wagon road vehicle the high and mighty railroad magnate should bow low, offer thanks and say: "The automobile is the father of my train system."

GERMANY IS BROAD MINDED

In Germany when a new industry arises it receives the unqualified support of the emperor, the government and the manufacturing interests and thus develops rapidly. In France the government only sees in a new industry an enemy of of older enterprises and a thing against which new police rules may be struck and which can be made a pretext for new taxation.

While the automobile has been rapidly and marvelously developed in some of its forms in France, it cannot be said that the patronage of the government has made the progress possible. The automobile has flourished in France in spite of the government, not because of it. Even French papers have censured the conservatism of the rulers and pointed with the finger of rebuke to Germany, where the automobile industry is not only free from hindrance, and special

taxes, but actually fostered by the government.

The German emperor is an enthusiastic motorist because the motor vehicle is progressive. He and the governmental body are imbued with the desire to wrest the transportation scepter from the horse and crown the automobile. They are not trying to develop a certain style of automobile; to increase the prestige of individual makers; to advance any particular type of vehicle power. They wish to aid the industry as a whole and allow its natural development to decide which shall eventually be the most fitting types and styles.

In France, on the other hand, the government is found to be conservative and those who exert the most influence upon the molding of the industry work selfishly for the advancement of certain classes of vehicles to the expense of the industry in general.

Strange that slow, phlegmatic Germany

should show the true way to France, the enthusiastic.

Automobile street sweepers are to be thoroughly tried in Denver. The complaint against horse drawn sweepers is that when they are run slowly the rotary broom revolves correspondingly slow. In the motor driven sweepers the broom will be revolved independently of the motion of the sweeper and an even speed thus secured.

The German government has appropriated \$43,750 for the purchase and operation of new automobile trucks for army service, to be ready for use at the holding of the next grand army tournament the coming summer.

A German experimenter with alcohol vehicles is said to have produced an automobile plow, an alcohol motored threshing machine and an alcohol tractor for general farm hauling.



"Snow Does Not Keep Us at Home," Says Superintendent Wells of the Bridgeport Locomobile Factory

AUTOMOBILES TO ASSIST MILITARY MESSAGE DELIVERY



A French Military Wagon



Ge-many's Wireless Telegraphy Auto

The accompanying illustration presents two modern European war wagons for unique purposes. Each serves the message makers of an army. They, as common with European military automobiles, are driven by gasoline motors.

The first is a vehicle which was added to the forces of the engineering corps of the French army last summer and was extensively operated during the Paris exposition, when it was employed for its novel purpose of transporting carrier pigeons prior to their liberation for homeward message-carrying flight. The wagon's engine develops 6 horsepower and furnishes a speed of over sixteen miles per hour, which is amply sufficient for all contingencies of operation in connection with infantry.

The other wagon is one of two which were built for the German military service in China and has the strictly up-to-date use of transporting material for wireless telegraphy operations in the orient. As is noticeable in the illustration, it is driven by the Daimler system

HAPPENINGS OF THE WEEK

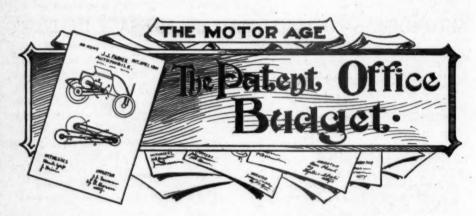
The Suffolk (L. I.) supervisors have passed a resolution asking for state legislation in the control of automobile speed. The action is due to a number of accidents said to have been due to the carelessness of drivers. Eight miles an hour is suggested as the maximum speed.

The first meeting of the recently-organized Geneva (O.) Automobile & Mfg. Co. was held last week. J. A. Carter, the organizer of the company, C. I. Chamberlin, T. H. Russell, A. Thompson, T. A. McCaslin, Henry Means and A. F. Dick-

inson were elected directors. They proceeded to the election of officers with the following result: J. A. Carter, president; A. Thompson, vice-president; A. F. Dickinson, secretary, and C. I. Chamberlin, treasurer. Mr. Thompson was also made superintendent.

William Byrider and J. A. Swinehart, tire men of Akron, Ohio, have sailed for England, it is said in the interest of a new company in which they are interested.

The borough council, of Madison, N. J., has passed a resolution limiting the speed of motor vehicles to eight miles an hour.

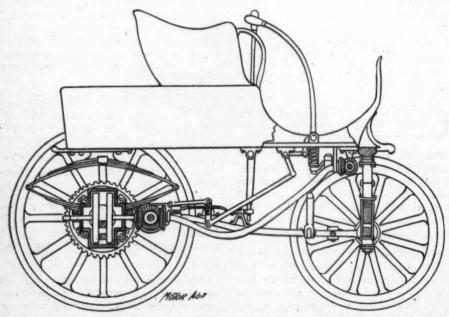


UNNING gears are not the least interesting portions of motor vehicles, for they present the chance to effect in many ways the necessary compensation for rough roads. Mere flexibility of running gear members cannot, in most cases, be depended upon to furnish this compensation. Thus the construction of hinged and pivoted running gear frame members affords a wide field for inventive research.

STEERED BY THE MOTOR

Letters patent No. 666,307, dated January 22, 1901, to Jay W. Farnoff, of Buffalo.

Convenience in handling is, of course, one of the great factors in motor vehicle evolution. It is a matter which should not be disparaged. One the other hand, inventors are apt, in the chase after convenience in the operation of such elements as starting and stopping, steering



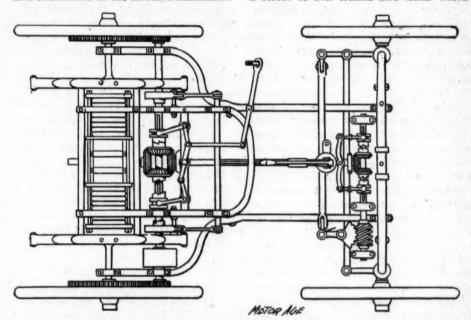
FARNOFF'S WONDERFUL AUTOMATIC STEERER-SECTIONAL VIEW

and braking mechanisms, to overlook numerous other requirements in vehicle construction and operation and to carry their convenience projects beyond the practical limits of utility. The reason that caution is necessary in such matters is that it is extremely easy to produce charming automobiles of the "push the button, the wagon does the rest" order—on drawing paper.

Mr. Farnoff exemplifies this type of invention. He provides a machine with a triple object: Convenient disconnection and connection of the motor transmission

to a cross counter shaft directly in front of it. Near one end of the counter shaft is the usual form of bevel gear differential and on the extreme ends of the shaft are spur pinions which mesh with large spur gear rings secured to the inside faces of the respective driving wheels in the manner that some electrics are driven.

The counter shaft gears, which mesh with the motor shaft gear, are loosely mounted and are adapted to be engaged with their respective locking clutches by a series of bell cranks and links which



FARNOFF'S WONDERFUL AUTOMATIC STEERER- PLAN VIEW

device; steering and braking controlled by the same lever, and steering assisted by the motor. His list of objective points is perhaps all right; there is nothing to hinder. But the last consideration supplies the invention with an overdose of convenience, for the method in which Mr. Farnoff accomplishes motor steering seems destined to supply the operator of the vehicle with other things than convenience.

The motor—which is specified as a two cylinder, balanced gasoline engine placed crosswise of the vehicle in line with the divided rear axle—drives by a longitudinal crank shaft and bevel gears connect with an operator's handle on the side of the vehicle. When both gears are out of lock with the shaft clutches the motor is entirely disconnected. Either a forward or back drive may be secured by moving the clutch of either the one or the other of the two gears into lock. No variable speed is provided by this mechanism. Simple enough, common enough; not much.

The brake drums are on the counter shaft and the bands are operated by a series of bell cranks, rocking arms and links which are actuated by the movement of the hinged steering lever or handle, it being only necessary to press the rear end of the lever down to set the brakes. Simple enough, common enough; not much.

Now for the great convenience.

Brackets under the front end of the body support a crosswise axle upon which is mounted a spiral gear meshing with a segmental gear on a rocking arm. This arm is connected with the steering knuckle operating links. Thus, when the spiral gear shaft is turned the steering wheels will be swung one way or the other, according to the direction of the spiral gear's rotation.

On the spiral gear shaft are also mounted, loosely, two bevel gears which mesh with an intermediate bevel gear driven by a flexible shaft running from an intermediate gear between the two driving gears of the motor counter shaft. Each of these spiral gear shaft gears has a slide clutch by which it may be made to assume rigidity upon the shaft to rotate the latter. The two clutch slides are manipulated respectively by the two sets of side links and bell cranks of the steering lever post.

When the steering lever is swung to one side, the corresponding gear clutch will be brought into engagement and its gear will rotate the spiral gear shaft, which, in turn, puts the steering mechanism into operation and turns the vehicle in accordance with the mechanism employed. Swinging of the steering lever in the other direction attains an opposite steering action of the parts, on account of having brought the second bevel gear-which rotates oppositely to the first -into play. The only power that the driver of the vehicle must exert to steer the vehicle is, then, that required to shift the moving parts between the lever and gear clutches. The motor does the rest.

Aside from the fact that when both clutches are out of engagement and the vehicle is running ahead in a straight line there is nothing to hinder it from whipping within the limits of engagement of the clutches, and that an appreciable moment of time must elapse before a steering change can be effected, it is evident that steering cannot be ruglated by the extent of swing of the steer-

ing lever but only by the duration of engagement of either steering clutch. When the operator has swung the handle to one side or the other and brought the corresponding steering gear into engagement, the steering mechanism will continue to turn the vehicle in a spirally shortening circle. The only way the operator can gauge the turning circle of the vehicle is to throw the gear into action and then quickly throw it out when the proper circle of turning has been struck.

Considering the fact that, no reducing gear being employed, the spiral gear steering shaft will be rotated at the motor speed of 2,000 revolutions per minute, the second that it is locked to the steering gears by the clutches it is probable that the driver would have little opportunity to gauge the circle of turning by timing. The convenience of the thing would save him the bother, but it is probable that it would also cause him to raise the hurried prayer: "God help this chauffeur."

Mr. Farnoff has also been granted letters patent No. 666,308 for a steering gear operated by an electric motor and so arranged that the vehicle can he steered wholly by hand should the motor give out.

ATKINS' FLEXIBLE FRAME

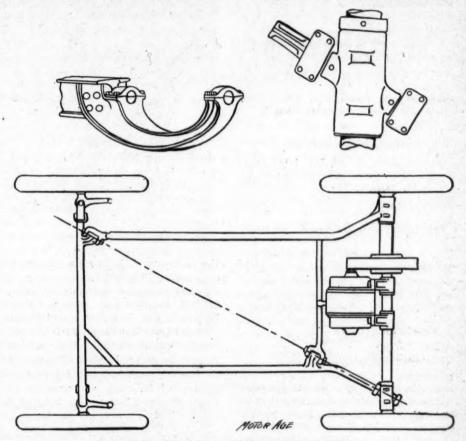
Letters patent No. 666,592, dated January 22, 1901, to Harold B. Atkins, of Roselle, N. J., assignor to the Electric Vehicle Co.

There are in practice three types of running gears designed to furnish suitable compensation for rough road surfaces, to which the wheels must accomodate themselves. The first and simplest is that in which the frame is composed of wooden or other flexible reaches which allow, by twisting, vertical tilting of the front and rear axles relative to each other. The second and most common is that in which a hinge joint is placed in the longitudinal center line of the running gear to permit independent movement or tilting of the axles. The third, and that applied in some form or other to nearly all of the Columbia ventcles

manufactured by the Electric Vehicle Co., is that in which the frame is divided into triangular halves by a hinge line running from one rear corner to the opposite front corner of the rectangular running gear frame.

Mr. Atkins' running gear is of the last named type. One side reach is rigidly connected to the rear axle and knuckle a correctly aligned pivot or knuckle joint to the other side reach. The detail views in the accompanying illustration show the method of constructing the underhung diagonal pivot at the rear corner hinge.

SMITH'S SOLID TIRE FASTENING Letters patent No. 666,330, dated Janu-



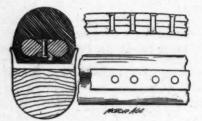
ATKINS' DIAGONALLY HINGED RUNNING GEAR

jointed to the front axle, the center line of the hinge coinciding with the diagonal line of the frame. The front end of the other side reach is rigidly connected to the front axle, while a bend near its rear end allows it to terminate in an underhung hinge on the diagonal line. A cross brace, sufficiently ahead of the rear axle to permit the interposition of the motor casing, is rigidly secured to the side reach which is rigid relative to the rear axle. It is hinged by

ary 22, 1901, to Olin B. Smith, of Chicago.

The Smith tire is of the common channel felly type with flat retaining band; this retaining band, however, is in three pieces, the object being to afford a riveted union which will not cause projections above the normal outline of the band. To this end the middle section has a sectional form somewhat like a figure eight, there being an annular groove in each side. Semi-circular bands are set into each of

these grooves with their upper surfaces not above the sides of the center band. The ends of the three overlap each other slightly so that they may be riveted to-



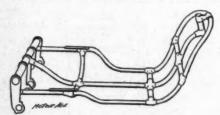
Smith's Tire Fastening Band

gether by four rivets, and thus formed into a single, non-stretching band.

SPRING MOTOR SUPPORT

Letters patent No. 666,554, dated January 22, 1901, to Edward E. Pettee and John J. McCutchan, of New York city, assignors to the Automatic Air Carriage Co.

This patent specifies several modifica-



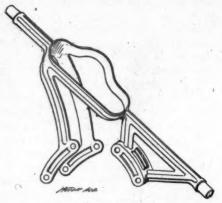
Frame Design for Thomas "Auto-two"

tions of a method for supporting an upright motor in direct operative connection with the drive wheel shaft, but re-

lieved of jar by leaf and coil spring mountings.

TWO THOMAS DESIGNS

Design patent No. 33,973, dated January 22, 1901, to Edwin R. Thomas, Henry Pokorney and Carl Thorden, of Buffalo. This design is for the tubu ar frame used by the E. R. Thomas Motor Co. in its light three-wheeled gasoline runabout,

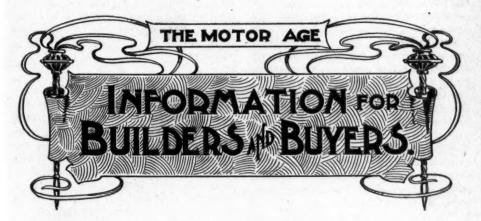


Design for Bicycle Motor Support

the "Auto-two." It is shown in the accompanying illustration.

Design patent No. 33,974, dated January 22, 1901, to Edwin R. Thomas, Henry Porkorney and Carl Thorden, of Buffalo. This design, which is shown in the second Thomas illustration, is for a motor support for motor bicycles. It takes the place of the usual bottom reach tube of a regular bicycle frame and suspends the motor low down between the front wheel and the bottom bracket of the frame.

Enterprise is the keynote of the Chicago Automobile Exhibition to be held March 23 to 30.



STILL ANOTHER NEW BOILER

The Lake Erie Boiler Works of Cleveland is manufacturing a new boiler adaptable for motor vehicles, the invention of George L. Wolf. The special features claimed for the boiler are positive circulation, ease of cleaning, cleaning thimble, and the rapidity with which steam can be raised. The boiler may be cleaned thoroughly without removing any of the settings. Steam can be raised in ten minutes in any weather, it is said. Sizes range from 5-horsepower, weighing 175 pounds and selling at \$175 net, to any larger sizes that may be required. The company is in a position to produce them in special sizes in lots of ten or more, on sixty days' notice.

READING CARRIAGE DOES GOOD WORK

That the single-acting four-cylinder engine which is the chief feature of the Reading carriage manufactured by the Steam Vehicle Co. of America, of New York city, is a most practical device was evidenced last week by a severe test to which Leon Schemerhorn, vice-president of the company, subjected one of the vehicles. Accompanied by a companion, Mr. Schemerhorn drove from Reading, Pa., where the company's factory is located, to New York in a Reading fitted with the regular equipment. For three days previous to the trip it had been raining or snowing, and as

a result the roads were in execrable condition, notwithstanding which, but two and one-half days were consumed on the journey. The distance is 183 miles, and between Reading and Philadelphia it was up and down hill nearly all the way. Mr. Schemerhorn is enthusiastic over the way these hills were negotiated. During the two days and a half the engine worked as smoothly as it did the first hour and on the whole trip it required practically no attention, aside from the refilling of the tanks. Not even a bolt needed tightening.

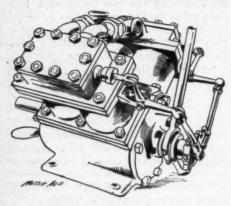
NOVEL PHILADELPHIA ENGINE

Although for some time makers of steam vehicles have been utilizing standard types of marine and other common engines there has recently shown itself in various quarters a tendency toward the production of radically new forms of steam motors for vehicle driving.

The illustration herewith presents a decided departure in steam motors for automobiles. It has four single-acting cylinders set parallel in pairs, those of each pair being cast together. The two pairs are set an angle of 90 degrees to each other with relation to the crank shaft, and each pair is fastened direct to a dust proof crank casing. The crank shaft is double cranked and one cylinder from each pair is hitched to each of the cranks. The construction is such that complica-

tion in the matter of piston rods, crossheads, slides, stuffing boxes, etc., is obviated.

By connecting the cylinders direct to a crank casing having two heads or ends bolted to place, a dust and waterproof crank box results, which may be partly filled with oil to furnish a constant oil bath to all inside working parts of the engine. There is not a single bolt, nut or screw inside the crank box, cylinders or steam chest. At the head of each pair of cylinders is a steam chest connected on the inside by one exhaust pipe and one feed pipe direct from the boiler, supplying steam to each steam chest and being cut off by a slide valve connected directly to a simple sliding eccentric on the crank shaft, outside of the casing. Link motion with its straps, blocks and other usual connections is thus discarded. The slide valves are evenly balanced, allowing the operator to reverse the engine, change the speed or stroke of the valve and stop and start the engine entirely with the reverse lever when a full head of steam is on. Hence the entire movement of the machine to



Loomis & Karcher Steam Engine

which it is fitted may be controlled by the one lever.

The engine has been run as high as 1,000 revolutions per minute without being fastened down in any manner, thus showing a notable reduction of vibration. The extreme dimensions of the engine are: 11 inches high, 12 inches wide, 8 inches deep. The weight is 50 pounds and, exclusive of nuts and bolts, which

are all on the outside, there are less than 50 parts to the whole engine. It is said to develop 6 horsepower. The inventors and owners of this new motor are W. J. Loomis and A. A. Karcher, 1233 Airdrie street, Philadelphia. It is patented.

AN ARTISTIC PRODUCTION

Of the many attractive booklets which have been recently issued by members of the automobile trade, that fresh from the Eagle Press and issued by the De Dion-Bouton Motorette Co., Church Lane and 37th street, Brooklyn, is certainly one of the most artistic. Its dekkle edge cover in two blues and red panel work is both neat and unique, and the interior of the brochure is first-class in the matter of paper stock, composition, illustration, press work and reading matter. Pictures of many styles of DeDion motorettes illumine the pages and the subject matter has reference to a 1,600-mile trip over American roads on a De Dion-Bouton Motorette and tricycle, and a record of the recent last summer's 1,000mile of tour of Great Britain in which De Dion machines figured largely and honorably.

THREE LOOMIS CARRIAGES

The Loomis Automobile Co., of Westfield, Mass., builds three patterns of gasoline vehicles—a light park wagon, a regular road wagon with wide stanhope body and a covered delivery wagon for general purposes. Model 1, the park wagon, is shown in the accompanying illustration. It is of the spider type with air-cooled motor. The body is distinctive and striking in its shape. Although intended for city and park use primarily, this vehicle is said to be amply strong to stand any road use to which it may be subjected. Its chief disadvantage for road use is its narrow tread (40 inches) which, however, enables it to be conveniently stored. The frame is constructed of steel tubing throughout. The aircooled motor is of the double cylinder pattern and its supply tank holds sufficient fuel for a run of 150 miles.

The company, in addition to supplying

these three standard types of complete vehicles and to constructing delivery wagons to order of any desired sizes, is prepared to furnish parts to those who wish to construct their own vehicles, such as running gears, bodies, carburetters, mufflers, etc.

THE WAVERLY IS SATISFACTORY

The Cleveland Automobile & Supply Co., has renewed the Waverly agency.

Cleveland, is operating a little electric phaeton, the first built of a type which will prove a worthy companion to the company's runabout. The vehicle is finished in a glossy jet black, even to the controller and side steering handle which are of ebony and hard rubber. It has a fine leather top with side curtains and a front curtain attachment covering the dash and extending up to a level with the riders head, making it a vehicle in



THE LOOMIS SPIDER PARK WAGON

The new runabout, photos of which are being displayed, is said to be a wonder. It is equipped with the Sperry battery. It is claimed that it has a capacity of eighty-five miles on average roads. George Collister of the local concern says he will be well satisfied if it shows forty-five or fifty miles as he believes such a vehicle will find ready sale among business men. The mileage mentioned would give it sufficient radius to answer the requirements of a physician and the local store will make an effort to push it with this class of trade.

NEW ELECTRIC FOR LADIES

Mrs. Walter Baker, wife of the head of the Baker Motor Vehicle Co., of

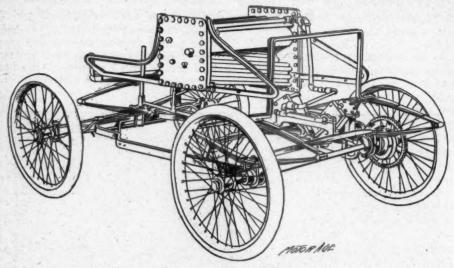
which a lady can go shopping without regard to weather.

AN ILLINOIS STEAM WAGON

The Empire Mfg. Co., of Sterling, Ill., is one of the first manufacturers of agricultural implements to enter the automobile industry. It has embarked in the new line with a steam runabout possessing several new features. The accompanying illustration shows the running gear, boller, engine and transmission gear of the Sterling carriage. The boiler is of the water-tube type with horizontal tubes and is equipped with a super-heating device. It is said that with a proper burner and fire in good condition, steam can be raised from cold water to 20 pounds

pressure in two minutes, and to 120 pounds in five minutes.

Through a door in the side of the carriage box the head of the boiler can be interesting features throughout their construction, the system of direct power transmission by means of which the usual chain and sprocket gearing is dis-



RUNNING GEAR OF STERLING STEAM CARRIAGE

taken off very readily without removing the boiler from the wagon. When all kinds of waters are used this feature becomes a convenience in the annual or semi-annual cleaning out of the tubes. . The engine is of the double-cylinder type with off-set arrangement of the cylinders. The driving wheels are driven by gears directly from the engine shaft, the motor being located at one side of the running gear and adjacent to the axle. The exhaust steam after leaving the cylinders passes into and through the condenser, muffler and feed water heater and is then discharged. The numerous other distinctive points about this machine can be obtained by addressing the manufacturers.

KIDDER STEAM VEHICLES

The Kidder Motor Vehicle Co., of New Haven, Conn., has ready for the market two models of Kidder steam vehicles. Model 2 is a light runabout for general use and Model B, which is shown below, is a delivery wagon with a capacity of 1,500 pounds.

While these vehicles possess numerous

carded is the most notable. A pair of horizontal reversing engines is carried, one cylinder on each side of the boiler on a special spring mounted frame. A point of considerable importance is that the boiler is hung low to give a low center of gravity of the vehicle. The crank shaft is carried directly above the rear axle, its spur pinion meshing directly with the gear on the differential box. Links maintain the correct distance between the engines and the crank shaft.

In the delivery wagon this transmission system is supplemented by a divided countershaft which carries the differential. On the extreme ends of this shaft are spur pinions which mesh with internal gears on the hubs of the rear wheels, the latter revolving on a stationary axle. This device reduces the speed at a ratio of twelve to one.

In both vehicles the exhaust steam is used to supply the feed water heater and the condenser presents over 70 square feet of condensing surface which is said to reduce the steam to such a state of practical condensation that its escape into the atmosphere is noiseless and not objectionable in the matter of sight.

The Kidder vehicles are well illustrated and fully described in a handsome and artistic booklet recently issued. The catalogue is made in the prevailing "old style" typography of the period and is worth asking for.

The Clayton Air Compressor Works, 26 Cortlandt street, New York city, has just published its new catalogue of Clayton air compressors for all purposes to which air compression is put. This catalogue illustrates and describes the many types of Clayton air compressors, air receivers, vacuum pumps, carbonic acid gas and high pressure compressors and the Clayton air-lift pumping system. Among the other contents will be found full information relative to the transmission of compressed air and capacity lost by air compressors in operation at various altitudes.

Palmer Bros., Mianus, Conn., have just added new drawings for the Acme bicycle motor, so that it can be built with jump spark if preferred. Parties who have bought castings of them in the past may have the drawings by asking for them.

The Franklin Model Shop, 129 West Thirty-first street, New York city, of which Messrs. Parsell and Weed are the proprietors, issues several pamphlets which are interesting to inventors and experimenters. This firm makes a specialty of model making and invention perfecting, and invites correspondence from patentees and other inventors who desire their productions developed. Small dynamos and gas engines for experimenters' uses are also manufactured.

After thorough investigation of all available sites Ralph Temple has decided to open his automobile store and supply house at 293 and 295 Wabash avenue, three or four doors south of Van Buren street. He has been reaching out for all the available good things and among others has secured the agency for the Munger motor vehicle tires of which he will carry a complete stock and be at all times prepared to demonstrate their excellence.

The Milwaukee Automobile Co., which was recently reported to be preparing to make shipments to Russia and England, calls attention to the fact that it has been doing so for three months past.



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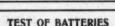
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The state department at Washington has received and made public the results of a competition in which electric vehicles were engaged in the late Berlin exhibition. The battery which took first place weighed only 121 pounds per kilowatt hour, while the heaviest weighed 286 pounds per kilowatt hour. The mean weight of the thirteen batteries taking part in the competition was 165 pounds.

Upon the assumption of a yearly total mileage of 9,500 it was calculated that the annual maintenance cost of a battery is about a cent a mile. The smallest consumption of energy per ton mile at the mean speed amounted to 91 watt hours for a passenger car, a far better per-

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The Chicago "I will" spirit characterizes the western Automobile exhibition next spring.





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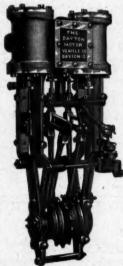
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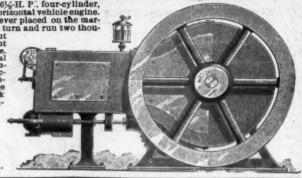
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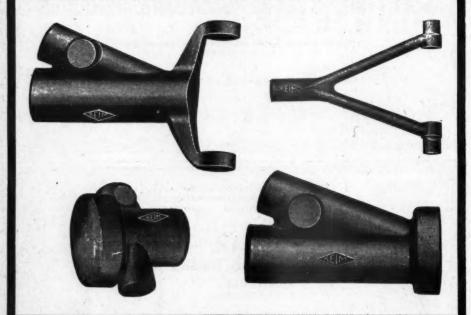
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